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NORWE®

Components for Power Conversion EP-Series

This catalogue contains information on all our products of the EP-Series

EP cores allow the design of transformers with high inductance, requiring only small space. The compact design also minimizes stray-fields. We supply coilformers made in high quality thermoplastics, matching your production requirements. This catalogue also contains data of clips, which may be required to secure the ferrites.

Wherever high-temperature soldering processes are used in connection with EP-series coilformers, we recommend radiation cross-linked plastics. This ensures that the mechanical properties – in particular those of gfr-polyamides – are maintained and breakages are reduced. For this reason NORWE offers all plastic components of the EP-series in irradiated cross-linked materials. Basically a cross-link enhancer is added to the thermoplast. The thermoplastic components are then exposed to Beta and/or Gamma radiation and cross-linking takes place.

Through cross-linking the material loses its thermoplastic characteristics. It is, however, not a thermoset material. In the short term, the cross-linked materials can be exposed to very high temperatures. Apart from improved aspects in production there may be interesting cost advantages.

Fully tagged or pinned coilformers are – in small quantities – usually available from stock. We can also quote for coilformers with pins or tags fitted to your requirements. All lead-times are relatively short. Our extensive range of modular tooling allows almost unlimited constructional changes to meet customers specification, often by simple changes of tool inserts. In addition the modular tooling system allows extremely short tooling times and can be very cost effective.

All dimensions in mm/inch. The permissible deviations according to DIN 16901 apply as tolerances. Should you need further assistance, be it technical or to assist when planning your order, we look forward to hearing from you.

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All dimensions in mm/inch

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Warranties:
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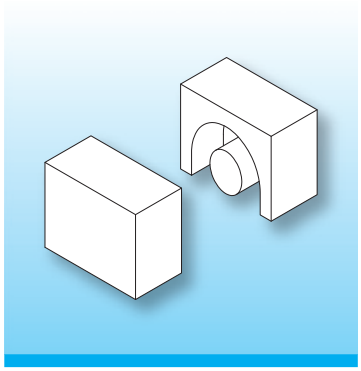
EP-Ferrite Cores
The tables below show the dimensions of the ferrite cores for the coilformers shown in this catalogue. The data can be used as an orientation in the design of application specific converters.

Specific details on the ferrite cores and materials should be available from the catalogues of the ferrite manufacturers.



l_e - effective length

A_e - effective area

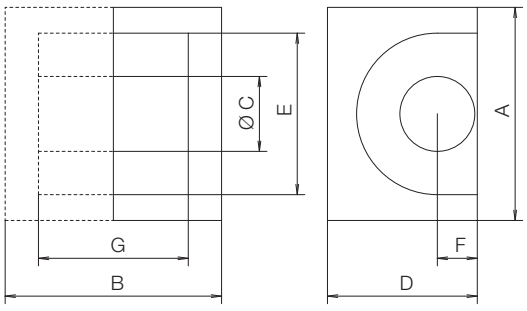
A_{min} - core cross section

V_e - effective volume

Dimensions in mm/inch.

Magnetic Characteristic/per set Type:	l_e mm / inch	A_e mm² / inch²	A_{min} mm² / inch²	V_e mm³ / inch³
EP 7	15.7 0.618	10.3 0.016	8.5 0.013	162 0.010
EP 10	19.2 0.756	11.3 0.018	8.5 0.013	217 0.013
EP 13	24.2 0.953	19.5 0.030	14.9 0.023	472 0.029
EP 17	28.5 1.122	33.9 0.053	25.5 0.040	966 0.059
EP 20	40.0 1.575	78.0 0.121	60.0 0.093	3120 0.190

Type	A	B	C	D	E	F	G
EP 7	9.4 – 0.4 0.370 – 0.016	7.5 – 0.2 0.295 – 0.008	3.40 – 0.20 0.134 – 0.008	6.50 – 0.3 0.256 – 0.012	7.2 +0.4 0.283 +0.016	1.7 ±0.1 0.067 ±0.004	5.0 +0.4 0.016 +0.016
EP 10	11.8 – 0.6 0.465 – 0.024	10.4 – 0.2 0.409 – 0.008	3.45 – 0.30 0.136 – 0.012	7.85 – 0.4 0.309 – 0.016	9.2 +0.4 0.362 +0.016	1.85 ±0.1 0.073 ±0.004	7.2 +0.4 0.283 +0.016
EP 13	12.8 – 0.6 0.504 – 0.024	13.0 – 0.3 0.512 – 0.012	4.50 – 0.30 0.177 – 0.012	9.00 – 0.4 0.354 – 0.016	9.7 +0.6 0.382 +0.024	2.4 ±0.1 0.094 ±0.004	9.0 +0.4 0.354 +0.016
EP 17	18.4 – 0.8 0.724 – 0.031	17.0 – 0.6 0.669 – 0.024	5.85 – 0.35 0.230 – 0.014	11.25 – 0.3 0.443 – 0.012	11.6 +0.8 0.457 +0.031	3.25 ±0.1 0.128 ±0.004	11.0 +0.6 0.433 +0.024
EP 20	24.5 – 1.0 0.965 – 0.039	21.6 – 0.4 0.850 – 0.016	9.00 – 0.50 0.354 – 0.020	15.30 – 0.7 0.602 – 0.028	16.1 +0.8 0.634 +0.031	4.5 ±0.2 0.177 ±0.008	14.0 +0.6 0.551 +0.024



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All dimensions in mm/inch

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Thermoplastic Materials

The following survey contains supplementary information on the different thermoplastic-qualities.
The material quality orientates to the conventional use of the components. For technical reasons alternative materials cannot be used for all articles.
Consult our qualified specialists regarding your individual material requests – we will be pleased to check whether your material requirements can be realized.
Further information on the materials can also be obtained from our homepage (e.g. to call up the UL cards).

NORWE Mat.-Code	NORWE Mat.-Description	Chemical Symbol	Tradename Manufacturer	UL-File-No.	Flammability Rating acc. UL	RTI Elec acc. UL
017	x2g5	PA66 Polyamide 66	A3X2G5 Ultramid BASF AG	E 41871	V-0 (0.81)	+120° C
039	A3X2G5 sv.	PA66 Polyamide 66	A3X2G5 cross-linked Ultramid BASF AG	-	-	(+120° C)
087	rtg nat.	PET Polyethylene Terephthalate	FR 530 L Rynite DuPont	E 41938	V-0 (0.35)	+155° C
096	TE 250 F6	PA46 Polyamide 46	TE250F6 Stanyl DSM	E 47960	V-0 (0.35) V-0 (0.75)	+ 65° C +140° C
243	Zen.6130L, black	LCP Liquid Crystal Polymer	6130L black Zenite TICONA	E 344082	V-0 (0.38)	+240° C

Explanations on the above survey of materials:

NORWE Mat.-Code . . . . . designates the number NORWE fixed for the material

NORWE Mat.-Description . . . . . names the NORWE-abbreviation for the material

Chemical Symbol . . . . . classifies the chemical product group of the material

Tradename . . . . . designates the product name or trade name fixed by the manufacturer

Manufacturer . . . . . name of manufacturer

UL-File-No. . . . . material quality tested and certified with respect to safety and flammability. The manufacturers of certified and approved products receive a so-called recognition card (yellow card) in which the product qualities are listed in detail. You find all relevant yellow cards – also called UL cards – for different material qualities on our homepage or you can obtain them from us.

Flammability Rating acc. UL . . . determines the flammability of thermoplastic materials based on burning tests in accordance with UL 94 considering the wall thickness of the material.

RTI Elec acc. UL . . . . . Relative Temperature Index according to UL 746 B. The specified temperatures are valid for long-range electrical load (Elec).

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